

REMARKS

Claims 1-11 are pending in the application. The Examiner has finally rejected all of the pending claims.

REQUEST FOR WITHDRAWAL OF FINAL STATUS

Applicants respectfully request withdrawal of the FINAL status of the most recent Office Action. Applicants note that the arguments submitted in the previously-submitted Amendment were accepted by the Examiner, that the Examiner changed the grounds for rejection of all of the pending claims, and that no amendments made to the claim language necessitated the change in the grounds for rejection. Accordingly, Applicants respectfully submit that the appropriate course of action for the Examiner was the issuance of a non-final Office Action.

In the previous Office Action, the Examiner had rejected Claims 1 and 2 under 35 USC § 102(b) as anticipated by the teachings of the Nakamura patent (U.S. Patent No. 5,818,403), and has rejected Claims 3-11 as unpatentable over the combined teachings of Nakamura and the Baldi patent (U.S. Patent No. 5,708,451). Applicants submitted arguments which convinced the Examiner that all of the rejections be withdrawn and that new rejections be set forth. In the most recent (currently pending) Office Action, the Examiner has rejected Claims 1-11 as

unpatentable over the teachings of the Nakamura patent, without citation of the Baldi patent or of any additional reference. Furthermore, the Examiner has resurrected a rejection of Claims 1-11 as unpatentable over the teachings of the Suzuki reference, a rejection which the Examiner had withdrawn earlier in the prosecution of this application (see: the Office Action of May 9, 2000 in which the Suzuki reference is cited against the claims, the Amendment dated September 8, 2000 in which Applicants refute the applicability of the Suzuki reference, and the Office Action dated November 2, 2000 in which the Examiner drops the Suzuki rejection). Applicants respectfully assert that the Examiner should not penalize the Applicants with a Final Office Action when the previous grounds for rejection were withdrawn and new rejections are raised. Accordingly, Applicants respectfully request that the Final status of the Office Action be withdrawn. Applicants additionally request that, upon withdrawal of the Final status, the filing fee for the filing of the CPA be refunded to Applicants deposit account.

RESPONSE TO REJECTIONS

The claims, 1-11, have been rejected as unpatentable over the teachings of the Nakamura patent and have been rejected as unpatentable over the teachings of the Suzuki reference. Applicants respectfully disagree for the reasons set forth below.

Applicants again assert that the Nakamura reference does not teach a matrix addressed display device comprising a cathode means, grid electrode means comprising a first plurality of parallel row conductors and a second plurality of parallel column conductors arranged orthogonally to the row conductors; characterized in that the display device further comprises means for providing cut-off correction information to a one of said first or said second plurality of parallel conductors, as is specifically recited in independent Claim 1, and all of the remaining claims which depend therefrom.

Under the present invention, as taught and claimed, cut-off correction information (and, optionally, gain correction information) is provided to one of a first plurality of parallel conductors (e.g., rows) or a second plurality of parallel conductors (e.g., columns) along with the drive voltage information which is being provided to those conductors based on the image display desired. As set forth in the teachings found from lines 11-27 on page 12 of the Specification, "[w]hen a particular column driver is not selected, the column grid conductor...is driven to a non-selected voltage, that is a voltage below cut-off" and "when a column driver 502 is selected...[it is] driven to a cut-off voltage" and "[t]he level of drive to the...conductors is determined by the pixel data...and the correction data 516 supplied from...memory. The correction data 516 consists of cut-off and gain corrections."

Clearly, therefore, what is being taught and claimed is a method and apparatus whereby not only the image information (e.g., cut-off voltage or a voltage below cut-off), but also correction information is being supplied to a set of the conductors. Applicants assert that the Nakamura patent does not teach or suggest such a method and apparatus. The Nakamura patent teaches a driving method for an electron beam generation system with image forming apparatus associated therewith. The Nakamura method comprises alternately applying information signals to odd-numbered columns of electrodes while applying cut-off signals to the even-numbered columns of electrodes, and then reversing the process to apply information signals to even-numbered columns of electrodes while applying cut-off signals to the odd-numbered columns of electrodes (see: e.g., Col. 5, line 65 through Col. 6, line 5). The Nakamura "cut-off" signals comprise non-information signals which are applied to non-selected columns (e.g., the even columns) so that the electrodes (e.g., the odd columns) which are receiving information signals "are not adversely affected by the voltage applied to the adjacent modulation electrodes (see: Col. 5, lines 41-50)." Clearly the non-information signals of Nakamura cannot be said to obviate the correction plus drive voltage signals which are being provided to all of the plurality of columns (or rows) under the present invention. Nakamura does not teach or suggest the provision of correction signals and information

signals to conductors. In addition, Nakamura does not teach or suggest that all of the plurality of rows or all of the plurality of columns be provided with the same signals. Since all of the pending claims recite means for providing correction information, Applicants respectfully assert that the claims are not rendered obvious by the Nakamura patent teachings.

Applicants further note that the Nakamura teachings of applying different signals to adjacent conductors (i.e., information signals to the even columns and cut-off signals to the odd columns) would never motivate one skilled in the art to provide multiple signals to a single column, let alone to provide the same multiple signals to all of the conductors in adjacent columns. In fact, Nakamura **teaches away** from such when it states that alternate information and cut-off signals must be applied to adjacent columns in order to avoid the adverse effects of having voltages applied to adjacent conductors (Col. 5, lines 41-50). Clearly, the Nakamura patent teachings cannot be said to obviate the invention as claimed.

Further, Applicants note that to suggest that the current be applied to all rows or columns of Nakamura would render the Nakamura teachings unworkable, since applying the signals to all neighboring rows would be inconsistent with the Nakamura teachings of alternate application of voltage to reduce negative effects created by neighboring lines being activated at the same time. It is well established under U.S. Patent law that

modification of teachings cannot be considered obvious to one having skill in the relevant art if such modification would render the teachings unworkable for their intended purpose. Clearly, therefore it cannot be maintained that the teachings of the Nakamura patent would lead one having skill in the art to the present invention.

Moreover, Applicants respectfully assert that the Examiner acknowledged that the Nakamura patent teachings were insufficient to obviate the claim language in the previous Office Action in which the Examiner stated that "[a]s to claims 3 and 4-11, Nakamura et al. [does not teach]... a non-volatile memory and the screen having a phosphor coating facing the grid electrode means", whereupon the Examiner cited the Baldi patent teachings. Clearly, if Nakamura did not adequately provide teachings to obviate the invention in March of 2001, it does not provide adequate teachings now.

As to the Suzuki patent, Applicants reiterate the arguments presented in the Amendment filed in September of 2000. The Suzuki reference discloses a cold cathode matrix display having rows and columns of conductors which are addressed by providing a signal determined by an electron element current determining means. The cited component of the Suzuki reference, namely the correcting means for correcting the element current determined by the electron element current determining means, comprises a leakage current determining means for determining a leakage

current which is passed through an unselected row of the matrix which neighbors the particular row of interest. The leakage current determining means determines a value for the leakage current of a particular row either by measuring the leakage current in the unselected neighboring row or by reading a stored leakage current value for the particular row from the memory location. Once the leakage current has been determined, that leakage current is added to the electron element current and the combined current is then applied to the particular row.

The Suzuki teachings of adding leakage current is not the same nor suggestive of the claimed use of cut-off correction information. The Examiner's attention is directed to the teachings of the present Specification wherein the cut-off correction is defined on page 5, line 7, equation (1). Clearly, the recited cut-off correction information is not the same nor suggestive of leakage current value.

Moreover, the Suzuki references expressly teaches that the determine leakage current is specific to a particular row (as stored or measured based on readings from a neighboring row). Furthermore, the Suzuki leakage current is added to the electrode element current for the particular row to arrive at a combined current for only that row. Thereafter, the combined current is applied to only that particular row. Suzuki does not teach that the combined current be provided to all of said first or all of said second plurality of parallel conductors, as is explicitly

claimed. While the present invention teaches and claims that cut-off correction information be applied to all of the row conductors or all of the column conductors, such is neither taught nor suggested by the Suzuki teachings of selectively determining a leakage current for a particular row, adding that to a specific electrode element current for that particular row to arrive at a combined current, and applying the combined current only to that particular row.

Applicants respectfully assert that the Suzuki teachings clearly do not teach or suggest means for applying cut-off correction information to all of a first plurality of all of the second plurality of conductors as is expressly recited in all of the pending claims. The applied information is different (cut-off correction information versus combined current) and the method by which signal information is applied is different (i.e., to all rows or columns versus to one particular row).

Applicants respectfully assert that if one were to take the Suzuki teachings of applying combined current for only one row to all of the rows or columns, such would render the Suzuki teachings unworkable for their intended purpose, since applying the same amount of leakage compensation current to all neighboring rows would not compensate for actual leakage at a particular row and could, in fact, escalate the leakage. Clearly the Suzuki reference does not include any suggestion of such application of information to all rows or all columns. Moreover,

since to modify the Suzuki teachings to apply the information to all rows or all columns would make it unworkable, such could not be considered obvious. Accordingly, Applicants again request withdrawal of the rejections based on the Suzuki reference.

Based on the foregoing request and remarks, Applicants request withdrawal of the final status of the rejections, withdrawal of the rejections, and issuance of the claims.

Respectfully submitted,
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